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Recommendations regarding Mean Sea Level Pressure and Wind

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Ideally by early 2003....

- The Hadley Centre global monthly MSLP data set HadSLP should be updated.
- The Terms of Reference of the GCOS MSLP Working Group should be expanded to include surface winds.
- A catalogue of available wind and pressure products should be developed.

Within 2 years, i.e. by early 2004....

- Florida State University will have a non-global (Pacific & Indian Oceans) data set of surface wind, MSLP, fluxes, and related variables from 1950 onwards.
- Appropriate techniques for the adjustment of both estimated and measured wind speed observations should be investigated and applied.

....by early 2004 (2)....

- Monthly wind statistics for 1854 to date should be computed using the adjusted estimated and measured winds.
- The Meteorological Service of Canada has created a high-resolution analysis of winds over the North Atlantic for 1958-1997. The use of historical daily MSLP fields to backdate this analysis should be investigated.

....by early 2004 (3)....

- Biases from the US Maury Collection pressure data set should be investigated.
- More observations on pressure are needed to improve historical MSLP analyses.
- The new JCOMM buoy metadata base should be populated with current and historical data. Merged COADS and WMO Publication No. 47 data 1980-97 should be made available.

In the 5-year timeframe (i.e. by 2007 for IPCC 4th Assessment)....

- Improved monthly (and daily if possible) surface pressure for land stations should be made available for blended land-marine analysis.
- Improved Reanalysis techniques, currently being developed, should be used to produce a combined daily MSLP and surface wind product for as much of the world as possible back to the late 19th Century.
- For all gridded data sets, error estimates of wind and pressures should include grid box uncertainties and error covariance structures.

Technical Recommendations

- Data that add the most information to the existing database should be given priority for digitisation.
- The research community should have access to preliminary data. Identification and documentation should clearly distinguish final from interim products, and advise users of potential duplication and lack of QC in the interim products.

More Technical Recommendations

- Use a new, fully documented format for interim and newly-digitised data.
- Continue development and application of new QC techniques and utilisation of metadata.
- Continue wide distribution of all data in appropriate formats, and share software to access and analyse the data. Data should be available freely, e.g. over the Internet, or at a minimum cost for media.